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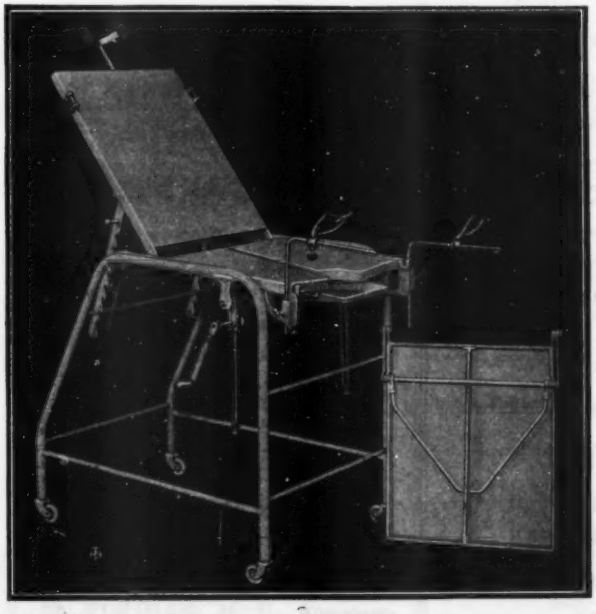

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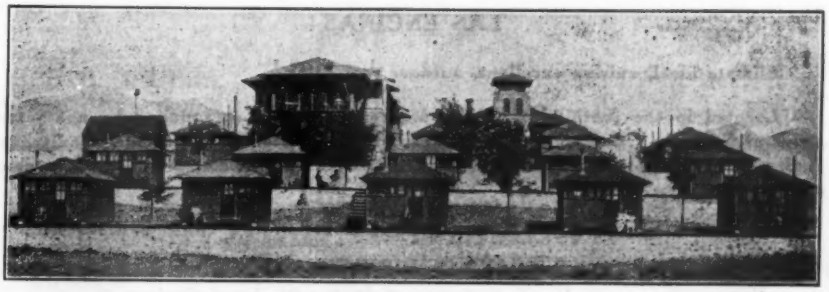

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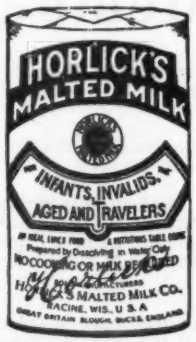

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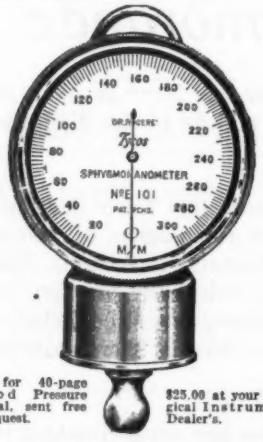

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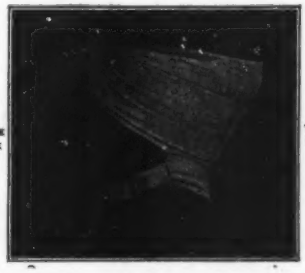

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PRESENT ASPECTS OF THE ETIOLOGY AND TREATMENT OF BRONCHIAL ASTHMA*

Dr. Geo.Piness, Los Angeles, Calif.

The literature on bronchial asthma has become exceedingly voluminous since Meltzer (15) in 1910 pointed out that asthma was a clinical manifestation of anaphylaxis. That the patient with asthma is sensitized to various foreign proteins which may be either inspired or ingested from without the body, or absorbed from a focus of infection or suppuration from within the body.

Hypersensitiveness or anaphylaxis, as described by Vaughan (1) in 1913, means that when foreign protein is introduced into the blood stream or tissues, it stimulates certain body cells to liberate a specific ferment that will digest the specific protein. When the protein first comes into contact with the body cells the latter are unprepared to digest the former, but this function is gradually acquired. The protein contained in the first injection is slowly digested and no ill effects are noticed. However, when subsequent injections of the same protein are given, the cells prepared by the first injection pour out the specific ferment more promptly, and the results are determined by the rapidity with which the digestion takes place. The poisonous group in the molecule may be set free so rapidly and in such large amounts that they are sufficient to produce anaphylactic symptoms or even kill the animal. To produce sensitiveness, the protein must enter the tissues before it is entirely split, and usually enters these tissues through mucous membrane unless injected hypodermatically.

Blackfan (2) states that the hypersensitive state may be present at birth, this being the rule in the greater percentage of cases, and that such conditions as asthma, eczema, urticaria and other allergic conditions may develop when the first protein is given. He further states that sensitization may be acquired or can be conveyed by the mother to the child, or may be inherited.

In the study of asthma patients, before making a definite diagnosis of the same, one must rule out that group of conditions which so closely resemble it. The writer does this by carrying out the following procedure: (a) A careful history is obtained, particular attention being paid to the family history as it is not infrequent for other members of the same family to have allergic conditions, occasionally the allergy being caused by the same proteins. Although all ages

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are liable, still one may obtain a clue as to the class of proteins to which one is sensitive, and as the age of onset increases, the frequency of sensitization decreases. A history of whether or not attacks are seasonal or perennial is of importance; as, for example, seasonal asthma is usually due to pollen sensitization, while the perennial type may be due to any group of proteins. Occupation is an important etiological factor, since the etiology is often traced through this information. For example, bakers, tailors, hostlers, etc., this group having become sensitive through the handling of the materials in the course of their daily employment. A history of certain skin conditions, such as urticaria or eczema, are not only predisposing factors, but have definite relationship to bronchial asthma, as most cases with a history of eczema in early life become asthmatic later in life, the offending protein being the same in each instance.

(b) A careful physical examination must be made to rule out the group of conditions, such as cardiorenal diseases, acute and chronic bronchitis, chronic tuberculosis with fibrosis, in which the dyspnea is mechanical. The teeth and tonsils and accessory sinuses should be investigated for foci of infection, and cleared up.

(c) Laboratory studies of the sputum, nasal secretions and blood should also be made, and, lastly, protein tests made to determine the specific offending protein or proteins.

BRONCHIAL ASTHMA

CLASSIFICATION OF WALKER

Sensitive to Proteins
- Asthma throughout the year, due to—
  - Animal
  - Food
  - Bacteria
  - Dust
- Seasonable asthma due to—
  - Pollens

Non-Sensitive to Proteins
- Asthma throughout the year, due to—
  - Bacteria
  - Endocrines
- Seasonable asthma due to—
  - Bacteria

CLASSIFICATION OF COOKE

1. **Anaphylactic**
   - (a) Respiratory
     - Animal emanations
     - Vegetable
   - (b) Intestinal Tract
     - Foods
   - (c) Foci of Infection
   - (d) Subcutaneous tissue of intravenous injection
   - (e) Therapeutic serums
2. **Non-Anaphylactic**
   - Thymus enlargement
   - Tuberculosis
   - Renal
   - Cardiac
   - Bronchial infection, acute or chronic
   - Reflex bronchial spasm

CLASSIFICATION OF RACKEMAN

- A. Pollen Hay Fever
  - Pollen Asthma
  - Complicated Pollen Asthma
- B. Dust, horse, feathers, etc.
  - Dust Asthma
  - Complicated Dust Asthma
- C. Food poisoning, urticaria, eczema
  - Food Asthma
  - Complicated Food Asthma
- D. Bronchitis
- E. Reflex
  - Perennial Asthma (bronchial infection without organic change)
  - Emphysema
  - Pulmonary Insufficiency
  - Chronic Bronchitis

The classification of Walker is the simpler of the three and quite satisfactory for practical purposes, but I would suggest that dusts be added to the group sensitive throughout the year. Cooke's classification is quite similar only somewhat differently arranged and superfluous, as most writers are agreed that true bronchial asthma bears no relationship to the dyspneas of cardiac and renal diseases. Rackemann's classification covers the subject very thoroughly and gives one an idea of what happens to the sensitive individual from the onset of his allergy to its termination.

Since often no amount of questioning reveals the cause or even gives a clue to the etiological factor producing the asthma, and since the removal of it gives immediate relief, there is justification for employing the protein skin tests, as they oftentimes, in fact, in the greater percentage of cases, demonstrate the exciting cause producing the symptoms.

The reaction that occurs when the protein is brought in contact with the scratch or injected into the skin of an individual sensitive to that particular protein, is an urticarial wheal, with irregular edges or pseudopodia, surrounded by an area of erythema. The two tests most frequently employed are the "scratch" and intradermal methods. The writer, after having observed and employed both methods, has concluded that the "scratch" method has given the most satisfactory results in his hands, although the intradermal method has proven equally as satisfactory in the hands of other workers, such as Cooke and Van der Veer. The reasons for employing the former method are similar to those quoted by other writers; that more tests can be made with less trouble and time at the same sitting; it is less painful and the possibilities of constitutional reaction are less than in the latter method; there is less danger of infection and does not require sterilization of solution; lastly, less frequency of false reactions.

The technic of the "scratch" or cutaneous method is as follows: A number of small cuts, each about 1-8-in. long are made on the flexor surface of the forearm. These cuts are made with a sharp scalpel, but not deep enough to draw blood although they do break the skin. On each cut is placed a small amount of protein, and to it is added a drop of N/10 sodium hydroxide to dissolve the protein and to permit of its rapid absorption. At the end of a half hour the proteins are washed off and the reactions noted, always comparing the inoculated cuts with the controls, on which no protein was placed.

A positive reaction consists of a raised white, irregular elevated, or urticarial wheal, surrounding the cut. A reaction to be positive must be at least 0.5 cm. in diameter. A negative reaction should rule out those proteins as causing the asthma or hay fever, while all those giving a positive reaction should be suspected as a cause of the allergic condition being studied.

The technic of the intradermal method is as follows: Sterile fluid preparation of the proteins are used, a tuberculin syringe, graduated in hundredths of a cc. with a 26 gauge needle being employed. About 0.01 cc. is drawn into the syringe and injected into the skin on the outer aspect of the upper arm, forming an elevation of about 2 to 3 m.m. in diameter. The results are noted in from 5 to 10 minutes and the reaction determined by the formation of a wheal, an area of erythema surrounding it. To be positive the wheal must be at least 0.5 cm. in diameter.

In performing skin tests it is well to bear in mind the following facts (1) That it is unwise to test patients immediately following or during attacks, as they will rarely respond to the tests, even though they are known to be sensitive, due to the passive immunity established by the attack. (2) Occasionally reactions occur with proteins with which the patient has never come in contact; this is a natural sensitiveness, and a warning to avoid contact with these proteins. (3) Reaction may be delayed, a test that appears negative after a half hour may become positive within 24 hours, this usually occurring in patients tested soon after an attack. (4) There is a group of cases that give a definite anaphylactic history but do not react to skin tests. This may be due to one of three reasons: (a) Possibly having omitted the proteins to which the patient is sensitive; (b) possibility of a toxin and not a protein being the cause; (c) possibility of having tested the patient during a period when he or she is recovering from an attack with the system loaded with antibodies, thus giving a negative test.

Cooke (6) has formulated two postulates which must be fulfilled before one can assume that any substance is etiologically important in a case of hypersensitiveness. They are as follows: (1) Hypersensitiveness must be demonstrated either by (a) a positive local reaction, cutaneous or ophthalmic, or (b) the original allergic manifestation must be artificially produced

at will, on introduction of the substance either by inhalation, ingestion, or subcutaneous injection. (2) It must be shown that the individual comes in contact, in some way, with the suspected substance in order to permit it to act as an etiological factor.

Patients may give clinical evidence of sensitization and give negative skin reaction, and positive reactions occur without clinical symptoms. The former may be explained by the fact that one having just recovered from an attack of asthma or other allergic condition has acquired a passive immunity. This also occurs at times after a patient has remained away from the protein to which he or she is sensitive to over a long period of time.

Multiple sensitization is not infrequent, and it has been the writer's experience that the earlier the age of onset of the allergic condition, the more liable is the individual to multiple sensitization. The writer has several patients who are sensitive to practically all groups of proteins, foods, pollens, epidermals, etc. The writer has found that multiple sensitization is more frequently found in adults than in children, and that the earlier one finds and eliminates the protein the less liable the individual is to multiple sensitization.

Brown (7) believes that undue reaction caused by the proteins of food may take place in any tissue or organ of the body, and the symptoms produced do not depend upon the variety of proteins but upon the tissue in which the manifestation takes place. The writer wishes to add to this that he believes that such reactions may occur from any protein, whether it comes from foods, epidermals or pollens.

The protein used, in testing, by the writer, are prepared by the method suggested by Coca, (14) having proven more satisfactory than those obtained from the various chemical houses, which were used up to a year ago. The proteins are in liquid form, and can be kept over a long period of time. Their potency is determined by determining the nitrogen content by the Kjeldahl method, and then diluted to the strengths required for testing and treating, the usual strength of the testing solution being 0.5 mgm. per c.c.

The pollens are collected by the method originated by Hampton, (8) as follows: The flowering stalks of the grass to be collected are cut with a razor half way between the lowest flower on the stalk and base of the plant. They are to be placed immediately in a bucket of tap water and carried preferably to a greenhouse where the light and temperature are comparatively constant and free from air currents. Here they are transferred to quart fruit jars which should be placed on a clear piece of plate glass. About one dozen jars should be used and these are to be filled with a nutrient solution containing the chemical elements, hydrogen, oxygen, nitrogen, sulphur, phosphorus, iron, magnesia, calcium, potassium, as found in the following salts: potassium dihydrogen phosphate 8.574 g.; calcium nitrate 2.986 g.; magnesium sulphate 6.32 g.; ferric phosphate .001 g.; to each liter. Change the solution twice during the two weeks needed.

Each day the flowers should be quietly shaken and the pollen swept up with a camel's hair brush and sifted through bolting cloth. It is necessary to let the pollen dry for a couple of days to avoid spoiling, which happens if put in glass stopperd bottles too early.

In this way the large quantities of pollen can be collected with little effort or expense. This method is applicable to grasses or other shrubs, which do not produce pollen in large quantities.

The preparation of the pollen extract is as follows, according to the method outlined by Walker (9): To .5 gm. of the dry pollen is added 44 cc. of sterile normal saline and the mixture is shaken thoroughly at frequent intervals for 24 hours, after which enough absolute alcohol (6 cc.)

is added to the mixture to make the alcohol content 12%. Again the mixture is thoroughly shaken at frequent intervals for 24 hours, after which the mixture is centrifugalized at high speed and the supernatant fluid pipetted off and saved. This supernatant fluid therefore consists of the pollen protein dissolved in 12% alcoholic normal saline solution, and it represents by weight 1 part pollen to 100 parts solvent. This 1 to 100 solution is used as stock and from it other dilutions 1:500, 1:1,000, 10:5,000 and 1:10,000 are made. These solutions are used for skin tests and for treatment. and with the addition of a small crystal of thymol they keep for many months in a cool place.

When testing, it is advisable to test with the groups of various proteins, for example, Pollen Group, Food Group (which is further divided into the various types of food, such as cereals, meats, vegetables, nuts, fish, etc.), Epidermal Group (consisting of the various animal hairs and feathers), Bacterial Group, and the Miscellaneous Group (consisting of dust, sachet, face powders and drugs). The number of tests performed depend upon the history, but the writer thinks it advisable to use every available protein at hand, so as to avoid missing any to which one might be sensitive. At present there are available approximately 146 food proteins, 112 pollens, 9 animal hairs, 15 bacterial and the miscellaneous proteins obtained from the various sachets, face powders and drugs.

Treatment

It is not the intention of the writer at this time to discuss treatment of bronchial asthma during the acute attack, as this is so well known and standardized that it appears to be useless to dwell on this part of the subject. But will take up for your consideration specific treatment by means of desentization with and elimination of the specific protein known to cause bronchial asthma, it being an accepted and well established procedure, yielding very satisfactory results in the majority of cases.

In describing specific treatment the writer will discuss the various groups and their treatment as follows:

Food Group.
Pollen Group.
Epidermal Group.
Bacterial Group.
Miscellaneous Group.

Foods: It is the writer's practice with patients of this type to insist on a total and absolute abstinence from the foods to which they are sensitive, the period of abstinence being from a few years to permanency.

The patient is advised to report back at least once in six months, at which time the patient is retested with the foods to which he is sensitive and to any other proteins which he has not been tested with in the past. This is done for a two-fold purpose; it permits one to keep the patient under constant observation, and it is possible to determine whether or not the patient is acquiring an immunity by abstinence from the foods.

Some workers prefer artificial immunization with the foods to which the patient is sensitive. This method consists of giving gradually, ascending doses of protein, either by mouth or subcutaneously, over a long period of time, or until the patient is enabled to take large amounts of the protein to which he is sensitive. Some writers, such as Talbert (10 and Schloss (11) have reported some very brilliant results, but the writer, after having observed both methods in the various clinics in his own practice, has concluded that the results are far more satisfactory in the cases in which the foods are eliminated from the diet, than in those in which artificial immunization is attempted. The chief objections to the latter method are, (a) it is most difficult if not impossible to determine the accurate dosage; (b) the tissues cannot be depended upon to absorb the protein; (c) marked constitutional reactions may occur if the dose be larger than that which the patient can tolerate;

(d) the results obtained do not warrant the time spent in this attempt at immuunization.

Pollen Type: This is best treated by artificial immunization with the proteins to which they are sensitive, and preferably preseasonal, thus producing an immunity to the offending protein of the pollen by the time active pollenization of the plant occurs. Treatment by this method should commence at least 14 weeks prior to the onset of the expected season, as the results obtained in the cases treated seasonally are not very satisfactory, due to the fact that it is impossible to determine an accurate dosage on account of the patient absorbing the pollens to which he is exposed, plus the amount administered subcutaneously. Walker states there are two chances of erring in the cases treated during the season, the liability of not giving enough pollen antigen to do any good, and the other, by far the more dangerous liability, of giving too large a dose. Not so much that the injected dose is too large as that the amount injected, together with the unknown amount which the patient is liable to encounter in the atmosphere may be too large, thus causing severe constitutional reaction.

After determining the pollens to which the patient is sensitive, the various dilutions are prepared. They are from 1- 100, to 1- 10,000. The patient is then tested to the various dilutions and treatment is commenced with the dilution next higher than the one which gives the least positive skin reaction. In other words, the initial dose consists of 0.1 cc. of the strongest dilution which failed to give reaction, no matter how slight it may be. Treatments are given subcutaneously at weekly intervals, never oftener than every five days. Each week the amount of antigen is gradually increased and as treatment progresses the strength of the dilutions is increased, until 1- 100 dilution is given. Below is an outline of the dosage for the treatment of this type:

1—10,000 0.1 cc, 0.2 cc
1— 5,000 0.2 cc, 0.3 cc, 0.4 cc
1— 1,000 0.2 cc, 0.3 cc
1— 500 0.2 cc, 0.3 cc, 0.4 cc
1— 100 0.1 cc, 0.2 cc, 0.3 cc, 0.4 cc

The above is the method employed by Walker (13) and proven very satisfactory in the hands of the writer and others. The writer's general rule during the treatment period relative to increasing the dosage is that should any of the following reactions occur —such as marked redness at the site of injection, hay fever or asthma occurring or immediately following within 24 hours of the time of treatment, then, instead of increasing the dosage at the next treatment, the dose of the previous treatment repeated. Any or all of the above mentioned reactions are very easily controlled by the use of epinephrin chloride, given subcutaneously in 5 to 15 minim doses, repeated as often as is necessary.

Epidermal Group: This group includes the animal hair danders, feathers and furs of various animals. Patients who are sensitive to feathers, such as goose, chicken and duck, are advised to avoid actual contact with them. This can be done by sleeping on hair or cotton floss pillows. But if the sensitization is the result of occupation, such as chicken ranchers, chicken killers and upholsterers, then it is advisable to immunize with the specific protein, as it is almost impossible to avoid contact. The above holds good for cases sensitive to cattle hair, dog hair, cat hair and other fur danders, but this rule does not hold good in individuals sensitive to horse dander, as its distribution is so widespread, being found on streets, in fertilizer on lawns, furniture, mattresses and even in clothes. The results in this particular group are unusually good, very few, if treated properly and consistently, fail to obtain relief, either entirely free over a long period of time (from 1 to 5 years, or more), or partial relief. The method of desensitization is similar to that employed in the pollen type, with the exception that those sensitive to the former are very much more sensitive,

some reacting to dilutions as high as 1- 100,000.

The benefits of desensitization can be checked up by the skin tests. It will be noticed that as treatment progresses there will be a marked reduction in the positiveness of skin reaction. One must not treat this type too often, the interval between treatments must be at least 5 days, preferably at weekly intervals, as very marked and serious reactions may result, such as were mentioned in the discussion of pollen asthma.

Bacterial Type: In the individual sensitive to bacterial proteins and those having a secondary bacterial infection, the latter type commonly called "chronic bronchitis," and better called asthmatic bronchitis, are best treated with bacterial vaccine. In the former one should treat with a stock vaccine containing the organisms to which the patient was found sensitive, and better still, if the organism can be isolated from the sputum or nasal secretion an autogenous vaccine prepared and the patient treated with the same. The writer's method of preparing autogenous vaccine is similar to that employed by Walker (16), using the whole killed bacteria, the object being to desensitize the individual as well as immunizing him at the same time, thus protecting him from secondary infection.

In cases non-sensitive to bacterial proteins, an autogenous vaccine is prepared from the nasal or bronchial secretions in the following manner: A loop of the nasal secretion or sputum is placed in a tube of dextro bouillon and allowed to grow in the incubator for 36 hours, after which time it is centrifuged, the supernatant fluid decanted and washed with normal saline solution through three washings. It is then diluted so that each cc. contains 2000 million bacteria. The vaccine is then inactivated for one hour at 60 degrees centigrade and to it is added 5 minims of phenol, which acts as a preservative. In preparing this type of vaccine, no attempt is made to isolate the predominating organism, all of the bacteria contained in the bouillon culture are utilized. But cultural studies on various media, particularly blood agar, are made for the identification of the organisms in the particular specimen.

Technic for the treatment is as follows: Initial dose consists of 200,000 bacteria or 0.1 cc., increasing a similar amount each week until 1. cc. is reached, at which time treatment is discontinued. And should any local or constitutional reactions occur, it is advisable to repeat the dose instead of increasing at the next treatment.

Miscellaneous Group: Face powders, sachets, tooth paste or powder, hypersensitiveness is best treated by avoidance of the powder or paste. If the powder be one containing orris root, and the patient is not sensitive to rice powder, or vice versa, then powders that do not contain the offending protein may be used. This type of individual gives very satisfactory results and obtains almost immediate relief by abstinence from the powder.

Drugs such as quinine and aspirin are the ones most frequently met with that give allergic reactions. They have been reported to cause asthma. The treatment of this type is simple avoidance of the drug in question.

Dusts: Room dusts obtained by sweeping or by the vacuum cleaner from the rooms or their contents occupied by patients are extracted by the method described by Coca, and the individual tested with the protein obtained. It has been shown by Cooke that about 4% of the asthmatics studied by him were sensitive to dusts with which they came in direct contact. The treatment indicated here is either desensitization with the specific dust protein, or change of environment.

CONCLUSIONS

1. That the hypersensitive state may be present at birth, inherited or conveyed by the mother to the child.

2. That a complete and thorough personal history, accompanied by a thorough physical examination, is of

prime importance in making the diagnosis and assists materially in determining the etiology.

3. A history of eczema, urticaria or hay fever bears a definite relationship to the protein sensitive asthmatic.

4. That bronchial asthma is no longer an incurable condition, since by scientific study with co-operation on the part of the patient and a persistency on the part of the physician, the greater percentage of sufferers can be permanently or partially relieved.

5. Multiple sensitization is common, sensitization to one protein in early life is apt to be followed by sensitization to other proteins in later life, and vice versa.

6. That the preparation of protein as suggested by Coca gives more satisfactory results than those purchased from commercial chemical firms.

7. It is necessary to have on hand all the proteins obtainable. The pollen proteins should be collected locally, as geographical regions of the United States differ, in the varieties of flora, and Eastern commercial pollens have no value in treating pollen sensitive asthmatics of the Southwest.

8. Complete abstinence from the foods to which one is sensitive is a much simpler and easier method of treating the food sensitive asthmatic than by artificial immunization.

9. Cultural studies of nasal, bronchial and other secretions are necessary to properly treat the bacterial type.

10. The pollen type is best treated by preseasonal treatments, but may be treated seasonally.

11. Of the epidermal type, those sensitive to horse dander should always be desensitized, while those sensitive to the other epidermal proteins, such as cat, dog, rabbit, are best treated by avoiding contact with the animal or fur to which they are sensitive.

12. The bacterial type, particularly the asthmatic bronchitis, is the mostdifficult to treat and gives the poorest results. They are best treated by autogenous vaccine.

BIBLIOGRAPHY

1. Vaughn, Tice's Practice.

2. Blackfan, K. D., American Journal Diseases of Children—1916—11—441.

3. Walker, I. C., Canadian Medical Association Journal, Feb., 1919.

4. Cooke, R. A., Clinics North American, Nov., 1917.

5. Rackeman, Frank, American Journal Med. Science, Dec., 1921.

6. Cooke, R. A., New York Medical Journal, Sept. 18, 1920.

7. Brown, R. C., Med. Press & Circular, new series 106-345, 1918.

8. Selfridge, Laryngoscope, Oct., 1920.

9. Walker, I. C., American Journal of Med. Sciences, March, 1919.

10. Talbert, Boston Med. & Surgical Journal, 1916, CLXXV—191.

11. Schloss, Amer. Journal Diseases of Children, 1912, 171-799.

12. Walker, I. C., Amer. Journal Med. Sciences, March, 1919, No. 3, 409.

13. Walker, I. C., Ibid.

14. Coca, Personal Communication.

15. Meltzer, S. J., Journal Amer. Med. Assn., 1919—55-1021.

16. Walker, I. C., Journal Med. Research, Sept., 1917, 37-No. 1.

TREATMENT OF TRACHOMA.*

DR. J. D. MULDER, S. B., M. D., Reheboth, N. M.

Six years of medical work among the Navajo Indians gave me an excellent opportunity to study trachoma. Trachoma is common among them. In the camps the percentage runs above twenty. In different schools visited by Dr. Richards of Fort Defiance and the writer, this past fall, we found among five hundred and ten school children a prevalence of thirty-two per cent.

Our facilities for treating the disease and marking its progress, under and without treatment, could scarcely be surpassed. Many school children under our care six years ago are still with us today, and all school children at our post were entirely at our disposal for treatment. We further had the use of a thirty-bed hospital at which trachoma cases were treated free of charge and at which they could stay any length of time. Another factor in our favor was the character of the patient. The Navajo is phlegmatic. From his earliest days he is taught to suffer in silence.

We began the treatment of the disease with enthusiasm, expecting certain cures to result from the careful following up of various courses of treatment outlined by men of repute. The fact that the treatment would have to be continued for seven to eight months and in some cases years did not at all change our plans. We were determined to root out the disease, especially from among our school children. The first year I treated about forty school children, all of whom had definite active signs of trachoma. I treated them daily for eight months. First the eyes were all carefully rolled, mostly by men experienced in in treating trachoma. Some twenty were rolled twice. Next they were treated with a four per cent solution of silver nitrate until most secretion subsided. This was followed by an eight months' local application of copper sulphate stick and later the alum stick; reverting to silver nitrate if there was much secretion. At the end of this course, however, I could not see any gain and the next fall again going over all the pupils I found conditions very much like the previous year. The next year I picked out those with the most marked signs and symptoms, rolled those having the most follicles, following this with a six months' daily treatment of five per cent copper sulphate solution, alum stick, and silver nitrate as before. As results were very similar to that of the previous year, I discontinued the radical treatment. Of late, however, I have tried out for three months the course of treatment outlined by Dr. W. S. Benedict of the Mayo clinic, which consists mainly in the daily application of two per cent silver nitrate. As regards this last course, I have failed to recognize remarkable advantages over copper sulphate and alum stick treatment.

What happens in this radical treatment? There is a constant irritation of the conjunctiva, which even in a healthy condition, if so treated, would gradually become inflamed. A semi-active state results in the arrested or partially arrested cases, making danger of contagion greater, increasing the symptoms and thereby also the suffering. And why is the disease not cured? I personally think it is due to the fact that the organism is out of reach. Trachoma is a deep-seated disease. The organism likely finds a habitat not only in the adenoid stroma of the conjunctiva but also in the many glands, especially found in the tarsal cartilage. The fact that the cartilage so greatly thickens in old cases, strongly suggests this. Neither astringents, caustics, nor grattage, can reach the

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stroma or the inner surface of the tarsal glands. Caustics and astringents will cause a coagulation in the most superficial layers of cells making further penetration impossible. Grattage removes some outgrowths of the disease that cause mechanical symptoms but never touches the main abode of the organism.

It is easy for an enthusiast to ascribe my failure of cure to lack of tact and faulty technic. The fact, however, that the foremost ophthalmologists treating trachoma differ so radically as to methods is sufficient proof that a specific has not been found. Dr. John McMullen, surgeon U. S. P. H. S. in the J. A. M. A., Oct. 22, 1920, says, "Treatment of trachoma is surgical." He evidently had been discouraged in the use of local applications. Dr. W. L. Benedict, head of the section of opthalmology, Mayo Clinic, writes: "I am getting farther and farther away from the operative methods for the treatment of trachoma," thereby almost placing a ban on surgery in the treatment.

My present treatment of trachoma (not mentioning prevention which I consider by far the most important) has in view arresting the disease. All school children who have no active symptoms are not treated. On the average no more than five to six per cent of those having signs of active trachoma will have symptoms. Those who do have symptoms are treated like the average active case, coming in from the reservation.

The treatment greatly depends upon symptoms, signs, complication, and sequellae present. In the average acute case, we first get the eye well cleaned. The eye is washed twice daily with a warm boric acid solution, after which yellow oxide of mercury is instilled. After two or three days of this treatment, the eye is anesthetized with a ten per cent solution of cocain. This is best directly applied to the everted conjunctiva. Three or four applications render them sufficiently anesthetized to roll the eyes of any Navajo thoroughly. . We then operate, using aseptic precautions. After removing as many of the granulations by forceps as possible, we take gauze immersed in one to five hundred bichloride solution and once more go over the entire conjunctiva. We next instill some bland heavy oil, cover the eyes with a towel and put the patient to bed for a day. From now on the eyes are washed once or twice a day with a warm solution of boric acid, after which I instill a bland salve (a mixture of vaseline, three parts; zinc oxide, one part; and boric acid solution enough to make a soft salve); placing this in a 5 cc. syringe, makes an ideal preparation easily instilled. This I use until all symptoms disappear. At least sixty per cent of cases will respond in from two to four weeks. If in about three weeks there is no let up of symptoms, I use silver nitrate two to four per cent for several days upon the theory that more local reaction may be of value, and again follow this up with mild treatment. If the tarsal cartilage is greatly thickened, removal may cause rapid improvement. Kuhnt quoted by Melville Black, J. A. M. A., Nov. 16, 1918, says: "The excision of the tarsus is the last word in the management of cicatrical trachoma." I removed some forty cartilages in cicatrical trachoma but found its value mainly marked where the cartilage causes mechanical trauma. In cases of persistent blepharospasm, it is well to try canthoplasty. This may give immediate relief. Other mechanical sequellae, as entropion, ectropion, etc., should be treated by their respective surgical procedures, and complications as panus and ulcers of the cornea, demand special attention. I used the x-ray on several advanced cases and although I thus far can report no beneficial results, I think a systematic raying of the disease at various stages may prove of value.

Even after all these factors have been carefully tried out, there remain a certain number of malignant cases that go to blindness no matter what course of treatment is followed. I have in mind a patient,

father of a family of which every member was badly infected. This patient I had under observation for almost six years. The first three years he was a constant sufferer. I do not remember meeting him a single time during those three years that he did not try to protect his eyes from the light. He was in our hospital for treatment at least three times; at Fort Defiance Episcopal Eye Hospital at least once. All our attempts at relief failed except that when at the hospital symptoms were less severe, due evidently, to cleanliness.

Are there no cases who have had active trachoma that become free from the disease? I believe that trachoma in its first stage is at times entirely arrested. Not due to any form of specific treatment but to an acquired immunity. It seems almost certain that a considerable number of individuals have a natural immunity against the disease, and judging from this it appears very probable that immunity can also be acquired. Going over the five hundred and ten school children last fall, we found nine per cent with an active conjunctivitis, often of a marked follicular type usually found on the nasal side of the conjunctiva, covering the upper tarsal cartilage. This must include, among other forms of conjunctivitis, the first stage of trachoma; and so many of this class recover almost entirely that I feel constrained to believe that among the cured are also cases of trachoma.

Whether trachoma, after reaching the secondary stage, in which there is definite scar formation, is ever cured, meaning by cured that all symptoms and signs of active trachoma have ceased and flare-ups are no more liable to recur than in one never suffering from the disease, is a question I am unable to answer. I have become convinced, however, that recurrence in these cases is the rule and not the exception. At the time of the sand storms all the old trachoma cases will at one time or other show active symptoms and signs.

After six years of treating trachoma we have come to the following conclusions:

First. That the treatment of trachoma is mainly preventative; educating afflicted families and more care at the boarding schools will go far to stamp out the disease, as danger of contagion, except in the acute stage, appears small.

Second. That trachoma should be treated from the point of view of arresting the disease, because (a) no specific has been found; (b) constant use of strong astringents and caustics, as silver nitrate, copper sulphate, and alum, as also repeated grattage, will set up a conjunctivitis, making the disease more contagious and cause much unnecessary suffering.

Third. Mild treatment as described above, using surgery when indicated, is of positive benefit; can be carried out by the patient himself; and will not cause him to avoid treatment and advice.

OXYGEN AND LIGHT IN THEIR RELATION TO THE INCIDENCE AND DEVELOPMENT OF CANCER.*

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It is evident to all physicians that cancer should be studied from every possible angle. Facts obtained by studying it from one angle may throw some light on other phases of it. A careful scrutiny of known facts may give some suggestion regarding treatment, etiology or the mechanism where-

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by the body resists malignancy. A study of the negative side of cancer may give us some valuable information. By this I mean why cancer is so unusual in certain epithelial tissues, and is so frequent and fatal in others. This difference in susceptibility and resistance is evidently due to the function and chemical composition of the tissues, and is undoubtedly also influenced by external biological and physical conditions. There are good reasons for these differences, and we should make every possible effort to discover them.

Facts may be fairly readily obtained, as a rule, such as those relating to anatomy, physiology, pathology, and the various phases of statistics. The incidence of cancer represents the combined factors of attack and defense, and statistics should help us out in this. Statistics do not always distinguish clearly enough between sarcoma and carcinoma, or between primary and secondary growths, and then again many cases are either recorded improperly or not at all. Many statistics relating to cancer are in terms of total malignancy, and not limited to carcinoma. They are made up from mortality tables, and one source of error will gradually increase, that is, they will not include cases that have been treated and cured by medical or surgical means.

lungs comprise about 1 per cent of all cancers; this includes the trachea and bronchi. Cancer of the prostate was formerly thought to be less than 1 per cent of the total, but recent improvements in diagnosis show it to be more frequent; statistics are open to revision. Cancer of the bladder is between 0.25 and 0.96 per cent of all cancers, and in the ureter it is rare, no statistics being given. Cancer of the penis comprises 1 to 3 per cent of all cancers in males.

Several points of interest may be noted from the above figures, and other statistics not quoted. In males about 62 per cent of cancers are found in the digestive tract below the mouth. In females, when we exclude the generative organs and breast, the percentage is about the same. There must be some factor or group of factors directly or indirectly related to the digestive processes that especially predispose to concer.

When we add to this cancers which affect other internal structures of the body, we find that fully 90 per cent of all cancers are found in tissues that are not exposed to either light or air. The question naturally arises, Is this due to the antagonistic action of light and oxygen, or have

The following figures were compiled by Dr. F. L. Hoffman (1.) statistician of the Prudential Insurance Company of America:

	Total	Males	Females
Mortality for 1920 in the United States: Whites 85,883 colored 4,117	90,000	37,116	52,884
Buccal cavity, organs and parts	3,339	2,775	564
Stomach and liver	34,293	17,317	16,976
Peritoneum, intestines and rectum	11,980	5,141	6,839
Female generative organs—whites 12,401 colored 1,270	13,671	.....	13,671
Breast	8,368	132	8,237
Skin	3,169	2,045	1,115
Other organs	15,188	9,706	5,483

Ewing gives the following statistics: Carcinoma and sarcoma of the larynx comprise 1 to 5 per cent of all malignant tumors. Carcinoma of the

they nothing to do with it, and are the true causes of cancer principally operating inside the body and not on more or less exposed surfaces?

We hear a great deal about chronic infections in their relation to the incidence of cancer. Do they really have the influence in originating cancer that many authorities believe, and do they explain the relative frequency of involvement in different organs? Here we must draw the distinction between bacterial parasitism without particular damage, and definite infection with tissue pathology.

Cancer is, in many instances, a sequel of chronic infection and mechanical irritation, but is not, as far as we know, invariably preceded by them. When we consider the vast number of chronic infections that occur after the age of 35 we must acknowledge that cancer results in a very small proportion of them. I do not wish to minimize the importance of observations connecting cancer with previously existing inflammatory conditions, but wish to emphasize the fact that cancer does not often result from such conditions when we consider the relative number of each. Chronic inflammation is mentioned only to show its frequency in the various epithelial structures and that there must be some strong inhibitory influences at work either in the tissues, or physical conditions operating at the site of the lesion, to prevent its conversion into cancer. The determining factor, which is the exciting cause of cancer, is wholly unknown at present.

The skin is swarming with bacteria, and those that do not definitely inhabit it as parasites constantly have access to it. It is constantly exposed to mechanical insults, and areas of injury and infection are very common, as are skin diseases. The skin is the largest epithelial structure of the body, yet cancer is not nearly as common on it as in some other organs. As a rule cancer of the skin grows more slowly than other cancers, is less malignant, ulcerates later, has a lower mortality, and is more easily and successfully treated. Many of them are apparently not dependent upon local chronic infection or mechanical irritation.

Frequently there will be patches of carcinoma, basal cell type (rodent ulcer when ulcerated), on the skin, especially of the head, which have no doubt existed as such for years, yet have remained entirely inactive. At times they will become slightly active, scale and itch, and become inactive again. Some of these patches keep this up indefinitely and never give any serious trouble. In these cases ulceration and metastasis are late. Such cases are latent, and seem to be held in abeyance by powerful inhibitory factors. Can this be due to the light and air, owing to their being on the surface of the body?

If oxygen, as represented by the air, has an inhibitory influence on the development of cancer, we would expect malignancy to be least frequent in structures constantly exposed to it. In the nose bacteria are very numerous, infections are common, yet cancer is rare. Cancer of the mouth is unusual except in the presence of long-standing marked infection and mechanical irritation, as from bad teeth and the use of tobacco. Malignancy in the larynx constitutes 1 to 5 per cent of malignant tumors, both carcinoma and sarcoma. Carcinoma of the trachea, bronchi and lungs constitutes not more than 1 per cent of all cancers. We would expect these low figures if oxygen had an inhibitory influence. Certainly chronic irritation is common in these structures. The rarity of carcinoma of the lungs in pulmonary tuberculosis is worthy of note. When cancer of the lungs does occur it is not in cases of active pulmonary tuberculosis.

The rarity of primary cancer in the epithelium of the air cells of the lungs is of particular interest. Secretion does not occur, but physiologically the lungs are more active than any gland in the body. We might add that chronic infection is more common there than in any gland in the body, except perhaps the tonsils, in which structure cancer is rare.

Does metastasis occur in the lungs from primary cancer elsewhere in the body in the same frequency as

cells are taken into the circulation? I mean here after the filtering process of the lymph glands has broken down, and free cells are contained in the lymph emptied into the venous system proximal to the heart and lungs. I believe not, although positive figures on this subject are not available. The lung parenchyma should retain some of the carcinoma cells that are detached and thrown into the circulation, in which case metastasis should invariably occur at the point of retention and grow as rapidly as elsewhere in the absence of some powerful local protecting factor. This is worth investigation.

The female genital organs and breast tissue, where cancer is so frequent, are not exposed to either light or air.

The favorable influence of light can only be inferred, but it is suggestive that the only successful medical treatment of cancer in people is by means of the radium and x-rays. The light given off by the quartz lamp is of value, but not nearly as much so as those just mentioned. Also the effects of the exposure of the skin to sunlight resemble those of exposure to radium and the x-rays. These are in many respects similar to sunlight. All are forms of energy, have velocity and wave-length, and are very likely very fine particles traveling at enormous speed. They all have the ability to penetrate various substances to varying degrees. The therapeutic value of sunlight has been demonstrated in some other conditions, and it is only a step furthere to suspect it for cancer.

If sunlight has any protective influence at all we would expect cancer to be least frequent as we ascend in altitude and with air as free as possible from obstructive matter, provided other factors were equal. To be of any value such observations would have to be general,, and not limited to one region. It would be exceedingly difficult to get together a mass of data from all over the world, from which conclusions regarding one factor could be deduced with any degree of accuracy.

We know from statistics that cancer is common in this country, and is on the increase. I do not believe that cancer is anything like as frequent in our Southwest as it is in the East or South. This is only an impression, but is gained from some years of observation and experience in our region. This would be a fertile field for some southwestern pathologist to investigate.

The following figures are from the U. S. Census, (3) and are in terms of cancer deaths per 100,000 population:

Registration area in 1913, 78.9.

California	97.6
Colorado	50.7
Connecticut	85.1
Indiana	81.1
Kentucky	48.0
Maine	107.5
Maryland	82.9
Mass.	101.4
Mich.	81.5
Minnesota	75.1
Missouri	67.1
Montana	49.4
N. H.	104.4
N. J.	78.4
N. Y.	87.8
N. C.	47.9
Ohio	81.8
Penn.	72.2
R. I.	93.3
S. D.	30.5
Utah	52.1
Vermont	111.7
Washington	53.5
Wisconsin	78.8

The average for states in the registration area was 78.9. We note that in general the highest figures are for the states at low altitude, with the greatest rainfall and humidity. The lowest figures are for states at some elevation and in the arid belt. There are a number of local contributing factors that prevent accurate comparison, such as the age of individuals in new and old states, nationality, and the negroes of the South, who make such a large part of the population there and in whom cancer is less frequent than it is in the whites.

The greatest amount of light and heat reach the earth on an average

all the year round between latitudes 23 1/2 degrees north and 23 1/2 degrees south. If light affected the frequency of cancer we would expect it to be least frequent between these latitudes, and more frequent towards the poles from them. It is very easy to draw wrong conclusions from statistics, as so many and varied factors are involved, but the following figures, compiled by F. L. Hoffman (3) are submitted as of interest:

"MORTALITY FROM CANCER IN CITIES ACCORDING TO LATITUDE, 1908-1912

No. of cities	Degrees of latitude	Deaths from cancer	Rate per 100,000 populat'n
35	60° N. 50° N.	119,374	105.7
48	50° N. 40° N.	121,216	92.4
24	40° N. 30° N.	37,451	78.1
7	30° N. 10° N.	5,696	42.3
4	10° N. 10° S.	1,056	40.9
7	10° S. 30° S.	3,040	37.7
5	30° S. 40° S.	11,048	89.8
130		298,881	

Average 91.0

The cancer death rate of Hammerfest, Norway, the northernmost city of the world (latitude 70° 40′ N.) during 1906-1910 was 132.0 per100,000 population, and 138.9 during 1911."

Most of the large cities are situated north of 30° N. The population of cities south of that latitude is relatively small.

Hoffman (3) gives the following opinion: "The table, therefore, would seem to warrant the important conclusion that cancer frequency is to a limited extent determined by latitude, which, of course, more or less determines the climate and weather conditions; in other words, cancer is excessively common in the temperate zone, moderately common in the medium zone and relatively rare in the torrid or semi-torrid zone, which for the present purpose may be construed to include the belt between latitude 30° north and 30° south."

Astronomers tell us that about 35 per cent of the light that strikes the outer layer of air is absorbed before it reaches sea-level. This is done by the air, moisture and impurities. The higher in altitude we go the more intense is the light. Also in our Southwest the air is dryer than elsewhere, the rainfall is lower, and there are fewer clouds. The light we get is much more intense at sea-level. The various rays accompanying light from the sun are diminished about in the same proportion as is light.

There is not much use theorizing as to how oxygen and light might have this result; we are first especially interested in the fact as to whether or not they actually do it.

REFERENCES

(1) Tex. State Jour. of Med., Nov. 1921, Editorial; p. 323.
(2) Neoplastic Diseases. Ewing. 1919. Pp. 828; 786; 759; 838; 843; 844.
(3) The Mortality from Cancer Throughout the World. F. L. Hoffman. 1915. Pp. 142; 422.

DIETETIC TREATMENT OF DIARRHEA IN BABIES.*

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A diarrhea is a condition characterized by frequent evacuation of the bowels. I want to consider, briefly, the various types, since in a large percentage of the trouble with infants, the condition we are called to relieve is the diarrhea.

It is not surprising that there is a wide divergence of opinion as to the typing of diarrheas; some claim that all diarrheas are infectious, while another group take the ground that they are all due to chemical action or interference of fats, sugars, salts, or proteids, with the processes of digestion.

It seems to me that we should recognize the good in the contention of

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both groups and consider diarrheas under two great heads: (a) Those due to intestinal indigestion, i. e., the ones where there is an improper balance of sugars, starches, proteids, fats or salts, with either an over or an under feeding, when the little patient cannot tolerate enough food to make him grow; and (b) the infectious diarrhea, i. e., fermentative diarrheas which, in their origin, however, are chemical as they arise from sugar or starch intoxication, and putrefactive or proteid diarrheas which arise from an intolerance to the amount of proteid being given. These also in the beginning are chemical, but the trouble is caused by the toxins generated by action of the organisms. The differentiation of fermentative from putrefactive is usually easy, the first being foamy and with sour odor, while the second has the foul odor of decomposition. The fermentation naturally occurs where starches and sugars have been used freely while the putrefactive type, where whole milk without starches or sugars have been the diet. From the other infectious types, dysentery, cholera infantum, and sugar intoxication, differentiation is usually easy, as these are the severe types.

The infant is very sick from the outset, temperature high (104 or more) and often goes from bad to worse regardless of treatment pursued. The stools in dysentery are bloody, in cholera infantum wholly mucous and serous. Myer and Leopold experimentally produced a sugar fever with milk sugar in which the predominant symptoms are diarrhea, slow sterterous breathing, fever, eyes glassy and sunken, muscular twitching, and mouth open. We need only to mention the diarrheas that are not the primary trouble but only a symptom or a by-product of some other condition, as typhoid fever, amebic dysentery, marasmus, tuberculosis, ulcer; intussussception, diarrhea from cathartics and mechanical diarrhea.

Only a few years ago the classical treatment of diarrhea was an initial dose of castor oil followed by one, two or three days' starvation, on the theory that all diarrheas were infections and that any food given would serve as a culture medium for the invading organism. In some cases this proceeding is both proper and commendable, but there is no doubt that the further depletion of an already depleted system both by physic and by starvation has so weakened many a baby as to render recovery impossible, and these cases of diarrhea from intestinal indigestion can be controlled by three or four days' dietetic treatment and without the use of any medicine whatsoever.

The methods of treatment most admirably worked out by Dennett, I quote because I have used them and I have never had them fail me. The first and easiest plan to carry out is: 1. Stop all sugars. 2. Feed one-third milk and two-thirds water boiled together. 3. Avoid cathartics. This method is applicable in cases of intestinal indigestion from fats, sugars, starches, or proteins; in underfeeding accompanied by intestinal indigestion, in overfeeding accompanied by intestinal indigestion and in fermentative infections. The second method is to give barley gruel for from one to four days, then return to milk (one-third) and water (two-thirds) boiled without sugar; after three days repeat barley gruel if necessary. Indications are putrefactive diarrhea, overfeeding and diarrhea not controlled by the first method. Third method: Give a cathartic; follow this with 24 hours' starvation, giving only plain water; follow with starches or gruels. This method is applicable in infectious diarrhea of the milder type, dysentery, cholera infantum, sugar intoxications and mechanical diarrhea.

If time permitted I should like to report cases illustrating each of these methods and giving details, but as you are no doubt all familiar with these methods and their results, I will go more into detail as to the fourth and fifth methods.

The fourth method is protein milk, which is applicable to cases of intestinal indigestion and fermentative

diarrhea and dysentery. Fifth method: Malt soup; applicable to practically all recurrent diarrheas or diarrheas of long standing. This is the method that practically never fails and every summer since I began to use it, feel that this method has saved some lives for me.

Protein milk is prepared by adding either a junket tablet, a drachm of essence of pepsin or of liquid rennet to a quart of warm milk. This is allowed to stand till it thickens, when it must then be heated to steaming heat (160 deg. F.) to prevent curdling the buttermilk; the whey is then strained off and the curds are forced through a fine sieve about three times and then added to one pint of cold water; to this water and curds is added a pint of buttermilk and it is ready for use. However, if the infant has been accustomed to much sugar in his milk, it is well to add a saccharin tablet to each quart, as this will increase the promptness with which the baby takes to it. This mixture being practically free from sugar furnishes no comfort or pabulum for the fermentative bacteria and they die.

As soon as the baby begins to have formed stools the boiled milk and water should be begun and this food should not be used for more than ten days without the addition of some form of sugar. Finkelstein and others have added sugar and continued it indefinitely. Were we in every case able to get the intelligent cooperation of the mother in the preparation of protein milk would be the first method instead of the fourth, but it confuses many mothers and for that reason it is only used when the others fail.

A case of this kind, baby age 11 months, weight 15 pounds, poorly nourished, skin shows wrinkling due to loss of fluids, had diarrhea two weeks, stools 8-12 per day, green yellow, normal odor, much mucus, no curds, no vomiting, appetite poor, sleep restless, tempearture 99. Had been given caster oil and barley gruel at outset. As this didn't relieve condition, was put on half and half boiled milk and water and the diarrhea still persisted. Protein milk was ordered, 6 oz. every three hours. Three days later weight 14 pounds 12 oz., a loss of 4 oz.; condition about the same, stools three in 24 hours, pasty, normal color, very little mucus, vomiting none, appetite ravenous, sleep good, temperature normal; treatment protein milk 8 oz. every three hours, four days later condition good, weight 15 pounds, a gain of 4 oz., hungry, sleep good and temperature normal; treatment milk 16 oz., water 32 oz., boil and make seven feedings 6 1-2 oz. every three hours, increasing milk 4 ounces daily, decreasing water like amount; later sugar to be added sufficient to meet baby's needs.

Were there no limits to the length of papers or to your patience, I should report other cases, but as I want to give some attention to the fifth method, I must pass on to it. The malt soup mixture is to my mind the method that succeeds when all others fail, and is prepared in this manner. Two solutions are made, a solution of cold milk and wheat flour and a solution of hot water and malt soup extract. Always using equal amounts of malt soup and flour, the milk and flour mixture is put on the stove and the malt soup and water poured into it and slowly brought to a boil, when it comes to an active boil it is ready for use.

This method is especially applicable to the baby with a low food tolerance, the type of a baby who develops a diarrhea and when put on boiled milk and water the stools soon become natural but before the food is increased enough to supply his caloric needs the diarrhea recurs. Such a case I desire to report.

G. K., 3 1-2 months old was an 8 months' baby, labor induced on account of eclampsia in the mother, birth weight 5 1-2 pounds, present weight 5 pounds, loss 8 oz., poorly nourished, eyes sunken, some vomiting, stools 6 or 8 per day, green and much mucus; had been fed proper milk water and dextri-maltose mixture; would seem to do well as long as the mixture was below his needs,

but when these were approached back came the diarrhea. I should have put the child on malt soup sooner, but this case occurred before I was as familiar with malt soup as I am at present, and it seemed such a task to make, which is the poorest excuse in the world, and I quote the case to illustrate my mistake in not using it earlier, for always remember this fact in treating babies, no task is too stupendous for an anxious mother. Treatment ordered; water 24., milk 8 oz., boil and put in seven bottles, one at hours of 6, 9, 12, 3, 6, 9 and 2 a. m.; increase milk 1 oz. and decrease water 1 oz. each day. Three days later, condition about same, no gain or loss in weight, two stools in 24 hours, no curds and very little mucus, pasty in consistency and no foul odor; treatment ordered, milk 12 oz., water 24 oz., malt soup 2 drachms, flour 2 drachms, put in seven bottles as before. Three days later baby contented, three stools per day, no mucus or curds, no nausea, no foul odor, had gained two ounces in weight, food ordered same as before, except that increased flour and malt soup, 1 tablespoonful of each. Three days later he had gained two ounces more and so, by gradually bringing up the strength of the food, we were able to make the baby make a constant gain until he became, at 8 months, a normal healthy baby. At that time his parents left town and I lost track of him.

The point I want to make and emphasize is this, that in treating little babies with diarrhea the less medicine we use the better for the patient.

PROSTATIC SURGERY AND SOME OF ITS PROBLEMS

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This paper is rather composite in nature and will only deal with chronic surgical conditions of the prostate, eliminating the surgical history, etiology and symptomatology.

When a patient comes to us asking for relief from a prostatic obstruction, two problems must be decided.

1. Can this patient be safely operated?
2. If so, when?

The first question is decided by a complete physical examination of the patient. Prostatic obstructions have long been recognized as a cause of urinary stasis. The history of its recognition and of the attempts to remedy the local consequences of its development, goes hand in hand with the gradual growth of our knowledge of anatomy and pathology of the prostate and the improved surgical technique now in vogue. The desperate need for relief in many cases has led the physician to the employment of crude and cruel means of overcoming the distressing symptoms of the obstruction by forced catheterization, bold tunnelling of the prostate through the urethra, suprapubic puncture and perineal cystotomy in emergency cases. The cause and effect in these conditions can usually be clearly followed. The pathology presented in these cases are chiefly, first, fibroadenoma; second, interstitial hypertrophy, and third, carcinoma.

The second problem, by a study of the urine and the blood in order that we may decide with reasonable accuracy, a comprehensive knowledge of the pathology of the prostate and physiology of the kidney is necessary.

As the tumor develops it causes a mechanical obstruction at the bladder outlet, at the same time an alteration in the shape of the bladder so that it cannot properly empty itself and residual urine results. It is considered with the presence of 100 cc of urine continually in the bladder that the urine backs into the pelvis of the kidney, causing flattening of the pyramids and a broadening of the calyces. This must cause more or less marked distortion of the urinary tubules, causing the kidneys to react to the pressure by the elimination

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of large quantities of urine of low specific gravity. Just how long this pressure in the kidney can exist before the kidney function is modified we do not know, but where a large quantity of low specific gravity urine is found a change has occurred in the kidney. In some cases, however, a normal urine will continue to be secreted even though considerable amount of residual urine be present. If, however, we decide to drain the bladder of one of these patients we find just as in those passing low specific gravity urine, a fall in the blood pressure and if drainage is made continuous a large number of them will become uremic. We are then of the belief that changes have occurred in the tubules of these cases.

This brings us to another problem. The choice of operation. We, who do general surgery and those limiting themselves to genito urinary work with one exception (Dr. Hugh Young) have practically decided that the two stage supra pubic route is the operation of choice. One of the objections advanced to doing a supra pubic cystotomy preliminary to prostatectomy, establishing a continuous drainage, is that we cannot again refill the kidney pelvis and produce the abnormal state under which it has been functionating and the case develops uremia. This objection can be overcome by the use of a small cork or clamp in the catheter allowing the bladder to empty at intervals by removal of the cork or release of the clamp, in this way controlling the too sudden release of back pressure.

The main object of the first stage operation is to obtain a gradual diminution in the back urinary pressure which has interfered with the physiology of the kidney. The operation for removal of the prostate is not in itself serious. In all other cases we proceed immediately to the supra-pubic cystotomy as a primary procedure. This operation is always done under local anesthesia using novacain one half of one percent, with the usual pre-operative preparation to the patient and operative field. The technic is a painless, clean cut division of the tissues; a good exposure of the anterior surface of the bladder avoiding the disturbance of the peri-vesicular structures; fixation of the bladder fundus by the passage of two sutures through the fundus of the bladder wall, one on either side of the intended bladder opening; bladder usually has been irrigated and left moderately filled with the solution which assists considerably in the procedure; introducing the curved LePezzar catheter into the bladder wound without leakage; careful suturing of wound, closing all dead spaces with through and through silk worm gut sutures. This insures practically a painless, shockless operation, makes it possible to get your patient up almost immediately if you desire, at the same time preparing him for the removal of the prostatic obstruction by relieving the kidneys of the back urinary pressure.

Following the supra pubic cystotomy the results are, in practically every case, a primary union of the wound; a dry wound, without any urinary leakage; convenience for control of back pressure of urine in cases of impending uremia by clamp on catheter and collection of urine for examination, which obviates any further urethral instrumentation. This operation is done without anethesia or surgical shock.

When the proper time has arrived for the enucleation of the prostatic obstruction the patient is prepared as before, prostatectomy being done through the former incision under spinal anesthesia using 1¼ grs. apothesin dissolved in one c. c. distilled water. Boil for two minutes. Spinal puncture is made in the second lumbar interspace from side obliquely in the canal, in this way avoiding injury to the plexus of veins in the center and less injury to the cord. We have used this technic entirely during the past five years Analgesia is complete in from two to five minutes and lasts positively one hour and, in some cases, for two hours. This procedure relieves the patient of the injurious effects of ether, both its primary dangers and its effects on the already weakened kidneys, making it possible to operate a certain number of cases not suitable for general anesthe-

sia. We have only found it necessary to enlarge the supra-pubic wound in cases where considerable interval has been used in getting the kidneys accustomed to the relief of back pressure. Enucleation is accompanied by the introduction of the index finger into the vesical portion of the urethra which slowly dilates and ruptures the mucous membrane and capsule producing a natural line of cleavage between the glandular masses and muscular fibers which can be followed around by a sweep of the finger avoiding injury to the internal sphincter and allowing the patient to gain earlier control of the bladder. In the fibrous or muscular hyperplasia this separation is more difficult. In cases of an elevation or median bar there is often indication for a V-shaped wedge to be removed. This above procedure is accomplished by the assistance of the elevation of the prostate with the fingers of the other hand within the rectum. The prostate with all foreign material and blood clots are then removed. With the fingers still remaining in the rectum for pressure the torn bits of bladder membrane are pressed into the prostatic pouch and held so by the use of the Pilcher bag which is a small pear shaped, soft, rubber bag to the apex of which is attached a rubber drainage tube about the size of a catheter through which the urine drains, another smaller tube being attached to the side of the fundus of the bag for the purpose of inflation to the size required to fill the prostatic pouch, the bag being introduced by a metal catheter passed through the urethra into the bladder on the tip of which is fastened the tube to be drawn through the urethra pulling the inflated bag into the prostatic pouch. The portion extending from the urethra is carried down along side of the leg with moderate pressure and fastened with adhesive strips. This insures sufficent, constant pressure and hemostasis. It is easily removed by deflation of the bag and withdrawal through the supra-pubic wound. The bag is usually removed in from 24 to 48 hours. This we consider is the most useful, ingenious, and safe measure. We no longer use the gauze packing on account of its uncertainty, the large amount of material required, the sloughing of the wound, painful removal, disturbance of the healing surface and dangers of secondary hemorrhage. A patient can usually be let up in 24 to 48 hours depending on their condition. Common sense must be used as to this procedure rather than set rules.

The method and technic mentioned in this paper deal almost strictly with the treatment of adenomatous hypertrophies, glandular and muscular hyperplasias of the prostate, as our experience has not been sufficient to dwell to any extent on the carcinomatous varieties which comprise according to Fryer, about 13 to 14% in a study of 1276 cases of enlarged prostate. Young estimates the frequency from 15 to 25% which is considerably more frequent than any other reported in the literature. Have also confined my remarks to the transvesical method for removal; however, some prefer and claim best results by the perineal route, this being especially adaptable in the cancerous variety.

Regardless of the method used by any operator I believe the malignant types should be subjected to proper roentgen and radium therapy as an adjunct to the surgical procedure on account of the fact that in a considerable percentage of cases of prostatic cancer diagnosis is not made until hope of a radical surgical cure for operation has passed. In such cases the use of the x-ray and radium should be attempted as a means for relief rather than subjecting the patient to a radical surgical operation with results frequently disappointing.

PROTEIN DESENSITIZATION AND THE FOOD ADDITION METHOD IN ASTHMA

ORVILLE HARRY BROWN, M. D., Phoenix, Ariz.

A system of diet devised by me, suggestively entitled the "Food Addition Method" has been of such value in producing desensitization and in other ways, in a number of difficuit cases and is so rational in view of the observations on which it is founded, that I present it to this Association for further trial and application.

The method should be serviceable in any condition which is due primarily or partially to food allergy.

The system consists, essentially, in limiting the diet of the affected individual to one, or but a few, articles of food for a short time—ten days to five weeks—after which other articles are added one at a time; the effect of each is studied and if any certain food is found to produce untoward results it is again eliminated from the diet for a time; after a liberal diet has been reached no one article of food suspicious of having caused trouble is to be included in the diet, in so far as practicable, oftener than twice a week; it is preferable that the execution of the system be in conjunction with the sensitization skin tests and that no article of food be allowed the individual so long as he gives thereto a reaction even suspiciously positive.

The advantages of the system are as follows: (1) it is a second test upon each food as a source of trouble; (2) the withdrawal from the diet of a food which has caused asthma for a period of ten days to five weeks apparently results in the desensitization of the person to that food; (3) resensitization to a food seems to be avoided if the food having been the cause of anaphylaxis is not eaten too frequently; (4) an excellent opportunity is afforded by the careful supervision of the diet to supply the patient a maximum of the type of food best adapted to his particular needs; (5) the patient is impressed that he is dealing with a system of diet which has definite designs and purposes and if the proper results are to be obtained he must follow carefully the instructions, and this is valuable suggestive therapy.

Clinical observations should rank with laboratory experiments as a basis for deductions and conclusions. The experimenter plans his experiment and executes it precisely with all influencing factors controlled according to the plan. The clinical observer has the stage all set and players ready for action before he appears upon the scene; it is his duty to make note of all elements participating and concerned in the final production. When a careful analysis has been made of all factors concerned in the production of a clinical result, the clinical observation in reality becomes an experiment and should be so utilized in the drawing of inferences.

The series of observations upon which the "Food Addition Method" was founded, or developed from, is as follows:

OBSERVATIONS

(1) I have observed repeatedly that individuals who react to the skin tests for the foods react frequently to a large number of foods and that also it is often difficult to know whether certain tests should be called negative or positive; not infrequently a test that is negative or only doubtfully positive at the end of an hour will be found to be positive after twenty-four to seventy-two hours.

(2) I have had a number of cases of asthma in whom food allergy seemed to be a paramount factor in the etiology of the asthma and yet when all the foods, which gave definitely positive reactions, were eliminated the hoped for improvement in the asthma was not obtained.

(3) An asthmatic, whose protein tests on the skin were all definitely neg-

*Read at the Annual Meeting of the Arizona State Medical Association, Prescott, June 14-16, 1922.

ative, except three or four which at most were doubtfully positive, among which was lettuce, observed after this reaction was obtained that eating lettuce aggravated her asthma. A peculiar feature of the lettuce tests was that while on one occasion it was doubtful at the end of an hour, on another occasion it was definitely negative at the end of an hour and was doubtfully positive at the end of twenty-four hours.

(4) A man came to me a year ago with an extremely severe case of eczema, involving his entire body, which I later proved to be due to food allergy; he gave a history of having had asthma. When he had asthma, however, he did not have eczema, and when he had eczema he did not have asthma, at least to any extent. Similar observations have been recorded in the literature.

(5) An asthmatic who came to Arizona from Michigan suffered unduly from asthma in Arizona; among other causative factors for her asthma was her sensitization to orange and she had found the Salt River Valley oranges particularly palatable and was eating a great many of them. The oranges were eliminated from her diet and grapefruit, to which she did not react, were substituted. Her asthma was greatly benefited; but after six to eight weeks it gradually grew worse and soon had attained its former severity. Retesting her to the foods at that time it was found that she was then reacting to grapefruit and was *not* reacting to orange. Eliminating the grapefruit and adding the orange to her regular diet caused her grapefruit reaction to disappear and the orange reaction to reappear.

(6) Two men—father and son—whose asthma seemed to be due entirely to food allergy found, after abstaining some months from those articles of food to which the tests showed they were sensitized, that they could again eat them in small amounts, infrequently, without developnig asthma; when they ate them frequently, however, their asthma developed.

(7) The patient referred to in Observation No. 4 was a baker, and hence I suspected at once, on learning that fact, that wheat might be the cause of his eczema. I made twelve preliminary tests the first time that I saw him; among these were wheat, eggs, lettuce and carrots. The lettuce and carrots were the only ones which were unquestionably negative. He was allowed only lettuce and carrots to eat and his eczema disappeared rapidly—being nearly gone at the end of a week. Another patient who had an extremely severe eczema, involving the entire body, to such an extent that skin tests were impossible until improvement resulted, required five weeks for her eczema to clear up, on a diet the best that could be prescribed until the tests were made.

(8) The egg reaction, in the preliminary test in the patient referred to in 4 and 7 was marked; the wheat reaction was so slight that it was even regarded as doubtful. In subsequent tests, however, which were made at about weekly intervals, the egg reaction gradually decreased; and the wheat reaction gradually increased until it became a marked reaction at every test as long as the man remained under treatment; all the foods, save alone the wheat, to which he reacted at all, decreased in their reactions, and finally disappeared as did the egg. At the end of three months the man was able to eat everything but wheat. It is presumed that the wheat reaction disappeared also, at least at the end of six months.

(9) At the end of six months the patient began eating wheat, and of course ate it regularly, and after five months he again developed eczema. The condition was not so aggravated as it was when he was working in the bakery. For six weeks before I saw this man, however, he had been away from the bakery.

A woman with severe eczema, which seemed to be due primarily to peaches, recovered by abstaining for five weeks from all foods to which she was sensitized; peaches seemed to be the primary cause of her allergy. After five weeks she ate everything; on eating peaches several

times a week, however, she began to have pruritis and a tendency to eczema. This patient's husband had a slight eczema also, apparently from peaches, as I judged from the skin tests. After five weeks of abstaining from the positively reacting foods his eczema was gone. Eating peaches several times a week, however, also gave him a slight tendency to eczema. It is needless to say, however, that they both refrain from the too frequent eating of peaches.

(10) A man had extremely severe hives. He was given the skin tests and a diet was prescribed which contained only the decidedly negatively reacting foods. He was told to adhere to this diet for three weeks; but he broke over after about ten days of diet; he was apparently desensitized, however, by the ten days of restricted diet, as he had little or no trouble with hives after the ten days of restricted diet.

This patient had been under treatment for a year before I was making the protein skin tests, and all efforts, including a fairly thorough elimination of the suspected foods, were futile toward giving him relief.

(11) A friend of my family, who had been seriously troubled with hives for many years, met a physician in South America some years ago who advised her to include in her diet a liberal quantity of orange juice; for ten days he allowed her nothing but orange juice. She also eliminated from her diet certain meats, and other articles, which need not be mentioned here, but she continued using the liberal quantities of orange juice for years, and save for one slight temporary attack which yielded to starvation and orange juice, she has had no return of the hives for five or more years. She no longer pays special attention to her diet, but eats as fancy dictates, and has remained well.

(12) A second friend of my family, who has always been extremely thin, although apparently in good health, fell for the fad of drinking large quantities of milk. During a period of six weeks she took on weight and her general physical condition seemed much improved. I have come in contact, especially in the past several years, with a number of the tuberculous who have done remarkably well by drinking four to five quarts of milk daily and taking no other food.

(13) The extremely fleshy have done most satisfactorily for me in the past several years on an exclusive diet of coarse vegetables.

(14) A certain asthmatic patient of mine visited another city two years ago and his asthma became so annoying that he called a physician; this physician arbitrarily advised him to exclude everything but milk from his diet. He did this and was greatly benefited—even beyond what I had been able to accomplish for him by a careful elimination of all foods to which the skin tests showed him sensitized.

Discussion of Observations ....

Observation No. 1 indicates that food allergy is extremely serious in many cases of asthma because of the large number of foods to which the asthmatic may be sensitized. In the event that a sufferer is allergic to but one or two foods it is a simple matter to eliminate the foods causing the trouble; but when twenty or more foods cause trouble the problem of eliminating the disturbers becomes most serious. The conclusion is obvious that all tests should be inspected at the end of 24 hours and even 48 and 72 hours, as reactions may be delayed.

This observation also indicates that there should be some way of marking the reactions which are not definitely positive. I have adopted a method of marking the reactions as follows: Where there is definitely no swelling or redness about the cut on which a protein is placed I credit the result as a double negative, thus=; a reaction which is plainly no more than the control is marked as a single negative, thus –; a reaction that is not enough more than the control to mark a one plus but is probably a shade more than the control is marked as a doubtfully positive, with both a plus and

minus sign, thus $\frac{+}{-}$; definite reactions are marked with one, two, or three plus signs as indicated by the grade of reaction. The reactions are inspected again after 24 hours or more and the results are recorded as before.

From Observation No. 2 comes the deduction that a food or foods may cause trouble in the bronchi and may not cause a definitely positive skin reaction when the protein is applied to a cut in the skin. Observation No. 3 is to the effect that a food which gave no skin reaction or only a very slight one, and that sometimes only after 24 hours, when eaten has been found to aggravate the asthma of that person.

It has been recorded in the literature, and observation No. 4 reminded me thereof, that a person may be subject to asthma and to eczema from food, but that when he has one he rarely if ever has the other. From this comes the deduction that some tissues of the body may be subject to an allergic reaction while other tissues are not subject thereto. Therefore, the conclusion seems logical that in the asthmatic a food might cause asthma and yet not give a skin reaction.

Observation No. 5 gives two unusually important suggestions, namely, that abstaining from a food that causes an anaphylaxis may allow an individual to become desensitized thereto, and eating a food regularly and frequently may cause an individual to become sensitized to a food —at least resensitized to a food to which he had been desensitized. Observation No. 6 is corroborative of No. 5. It would seem from No. 5 that six weeks were sufficient to cause either desensitization or resensitization.

In Observation No. 7 an eczema cleared up promptly when only a limited diet of double negative foods were prescribed, whereas in another patient on whom no tests could be made and the diet prescribed was based on the history of what she rarely ate, the eczema was slow in disappearing. It would seem to be important to base the diet on the skin tests; results may be obtained, however, without them.

Observation No. 8, in regard to the egg reaction, corroborates the previous observation that abstaining from a food, to which one has shown sensitization, causes a desensitization to that food. It is an interesting observation that the wheat reaction increased at least for a time after it was eliminated from the diet; just why the wheat reaction was negative, or nearly so, at first, when everything, and especially subsequent skin tests, pointed to it as being the primary producer of the anaphylaxis is not understood at present. From observation No. 8 one would conclude that three months was ample to desensitize to those foods which may be considered as secondary producers of allergy; and six months was ample to desensitize to a primary producer of the allergy. Also one may conclude from No. 9 that eating the primary producer of allergy frequently and regularly, as most of us eat wheat, for five months may resensitize to the food which was chiefly responsible for the anaphylaxis.

From Observation No. 10 we may conclude that one who has only hives from his food does not need to adhere to a restricted diet of the negative food as long as does the person with eczema or severe asthma.

Observation No. 11 was made earlier than the sequence of its reporting would indicate; at any rate, it was made at a time when I had drawn no definite conclusion about the production of either desensitization or resensitization. My first deduction from No. 11 was that a free administration of orange juice, to one suffering from anaphylaxis, might serve as a desensitizer to those foods causing the anaphylaxis. My first experiments in trying the orange juice as a desensitizer resulted in aggravating the condition of the patients on whom the experiment was tried. Although I was impressed at first by the theory of orange juice as a desensitizer, I realized later that the good obtained

by the patient in No. 11 might be due to the nearly permanent elimination from her diet of the several meats or other foods eliminated. If this were true, then one must conclude that after several years of abstaining from allergy producing foods, they may again be eaten and with impunity. After some of the other observations heretofore detailed had been made it occurred to me that likely the good that the individual concerned in Observation No. 11 obtained was due to the elimination for a time of all foods to which she was sensitized and allowing her to eat during this time a food to which she was not sensitized. The conclusion in this instance anyway is that ten days may have been sufficient to desensitize her to some foods; this conclusion must be held questionable, as she had eliminated certain few articles for a period of several years.

From Observation No. 12 we conclude that an individual may be safely and also advantageously limited for a time to one article of food if that article is milk. In the event that one is definitely not sensitized to milk and is sensitized to a number of other foods, some reactions of which may be questionable, and if the individual needs to take on weight, milk alone may be advantageously prescribed.

Observation No. 13 allows the conclusion that obese asthmatics may profitably limit their diets to coarse vegetables. It is obvious that if the obese asthmatic is not sensitized to the coarse vegetables prescribed and is sensitized to other foods the limiting of the diet to coarse vegetables should also do good by allowing a desensitization of the foods eliminated from the diet.

In Observation No. 14 there is an example of the asthmatic who was sensitized to some food or foods, the skin tests for which did not show positive reactions. He was not sensitized to milk; he was under weight. The diet limited to milk served a double function, first of desensitizing him to those foods to which he was sensitized and, second, of putting flesh upon him.

Based upon my observations and upon the course of reasoning as presented in the preceding discussion I have evolved a system of diet for asthmatics and others in whom food allergy may be suspected.

The application of the "Food Addition Method" should be as follows: First, test the individual for anaphylactic reactions from a fairly complete list of foods, marking the results, double negative, negative, doubtfully positive, and positive in whatever grade indicated. The diet for the individual for the first period—ten days to five weeks—is selected from the foods which on the patient's chart have a double negative mark. If the individual is too thin, the highly nutritious foods in the list are chosen, whereas, if he is too fleshy the coarse vegetables from the list are selected; the patient is kept on this diet for ten days to five weeks or as long as is definitely indicated; whether five weeks is as long as any case will have to continue the diet of this period I have not definitely determined; at the end of the first period the single negative foods are added—selecting those suited to the particular needs of the patient—one at a time; after this list is utilized those in the doubtful class are added one at a time as before; any food that seems to produce untoward results is eliminated again for a time; it is always wise to make a skin test for such foods as apparently do harm, even if the first test of them indicated that they had no anaphylatic effect; when the doubtfully positive reacting foods have been added, in so far as is desirable, to the diet, all the foods which gave positive reactions should again be tested on the skin and the results recorded as before; the double negative, the negative, and the doubtfully positive foods are added to the diet as was done previously; then a retest is made of all foods which reacted on the last test and the same system as used before is followed in adding the foods to the diet; retests should be made whenever indicated.

Foods which at any test gave positive reactions should be included in the diet list each week on two days only and separated as far as possible; whether this precaution, of eating only twice a week, as far separated as possible, the foods which gave definitely positive anaphylatic reactions, is sufficient or not I have not definitely determined.

In conclusion, I would sound the warning that one must not be too enthusiastic about relieving asthma by eliminating all possibilities of anaphylactic reactions. The present-day tendency to classify asthma as one type of anaphylaxis—protein sensitization—is to be frowned upon; at the risk of being considered overly enthusiastic for my own theory, I would state that there is no one factor which is always and consistently present in all cases of asthma except the non-passive expiration and that the etiologic factors responsible for the non-passive expiration at the same time invariably produce disturbances—edema, inflammation, anaphylactic reaction, irritation, secretions and excretions—in the upper respiratory tract, and thereby bring on simple dyspnea, which is converted by the non-passive expiration into asthmatic dyspnea. If the physician will look upon asthma as a symptom of any and all pathologic conditions which may directly or indirectly affect the breathing and the upper respiratory tract and not be wedded to the view that all cases are due to anaphylaxis, or to the nose, or to bronchial muscle spasm, or to endocrine disturbances or to any other special theory, but that any and all of the abnormallties may be playing a certain part, greater advances should be made in the treatment of asthma. The strength of the non-passive expiration theory lies in the fact that it correlates and explains the various observations made, and the theories advanced, on asthma.

SUMMARY

1. Desensitization of a person to foods to which he has anaphylaxis may be accomplished, it seems, by eliminating those foods from the diet; this seems definitely established for those articles which may be regarded as secondary reactors; it probably is also true for the primary reactors, though there may be a type of anaphylaxis which is not desensitized by a withdrawal of the article concerned for any length of time.

2. It seems that some individuals have been desensitized in as short a time as ten days, whereas, others require three to five weeks; others may require a much longer period.

3. Resensitization of a person to a food may take place by again frequently and regularly eating that food. In one instance this took place in six to eight weeks and in another in five months.

4. The resensitization may be avoided probably by the eating of the particular foods not oftener than once or possibly twice per week.

5. The resensitization question is especially serious when some food like wheat or potatoes or milk is at issue.

6. The skin tests should be inspected at the end of 24 hours, or even as late as 72 hours, as I have found tests to show no reaction at the end of an hour and yet show reactions at a later period.

7. It seems that anaphylactic sensitization is a local affair to a considerable extent, and for this reason the protein skin test should not be regarded as a final test for bronchial sensitization.

8. The "Food Addition Method" in diet, devised as a supplement, also as a complement, to the skin test, may detect foods which cause anaphylactic reactions and which may not give a positive skin test.

9. I have found it advantageous to use a system of recording the skin reactions as follows: A double minus sign for those that are definitely without swelling, and single negative sign for those that are plainly no more than the controls, a plus and minus sign for those that are doubtful and one, two or three pluses as indicated for those that definitely react.

10. The application of the "Food Addition Method" is in conjunction with the skin tests as interpreted by the system of marking as indicated above. No food is added so long as it gives a positive reaction. The individual is given, at first, a limited diet of non-reacting foods, and if no untoward results are observed, other non-reacting foods are gradually added. As the individual becomes desensitized to a food as shown by the skin test the food may be added to the diet list for irregular consumption.

11. An individual should not be permitted to eat oftener than twice a week any food to which he has previously reacted, and then only after he has ceased to react to it.

12. In the preliminary stage of the "Food Addition Method" when the diet is limited to one or but a few foods, the thin asthmatic is given milk, or other highly nutritious food to which he does not react, and the obese asthmatic is given coarse vegetables to which he does not react.

13. The "Food Addition Method" should be of service in a further study of the problems of anaphylaxis and desensitization.

ARIZONA NEWS ITEMS

DR. WM. A. SCHWARTZ, of Phoenix, spent the month of July in San Francisco, taking the post-graduate work which was given in a special class there by Fuchs, of Vienna.

DR. WILLARD SMITH, of Phoenix, after a month in the mountains of Arizona, left on August 1st for a six weeks' trip to Alaska.

It is rumored that DR. ALVIN T. KIRMSE, of Globe, will leave that city in the near future, and locate in El Paso. The Gila County Society will lose a very efficient secretary and the State Association will need to find a new treasurer, when Dr. Kirmse leaves.

DR. FRANK W. SCHWARTZ, past assistant surgeon in the United States Public Health Service, stationed at Whipple Barracks Hospital, has been appointed Superintendent of the Arizona State Hospital, in Phoenix. Dr. Schwartz is an experienced psychiatrist. Dr. Mildred Thoren remains as assistant superintendent.

DR. E. PAYNE PALMER, of Phoenix, left on July 31st, for a six weeks' trip into the Sierra Nevada Mountains of California, including the Yosemite Park.

DR. JAMES M. GREER, of Mesa, is spending a month in the White Mountains, going, as he announced, "where the foot of the white man has never before trod."

DR. CHAS. S. VIVIAN, of Phoenix, has just returned from a three weeks' vacation on the coast.

DR. ALEXANDER WALLACE, of Nogales, has moved to Los Angeles, where he is located in the Junior Orpheum Building.

DR. R. L. ALEXANDER, of Tempe, Arizona, has moved from the latter place and located in Ontario, California. Announcement cards state that Dr. Alexander will specialize in Diseases of Women and Children.

ABSTRACT

The Diagnosis of Pulmonary Tuberculosis. Louis Hamman, Baltimore, Md., Southern Medical Journal, July, 1922.

In spite of the persistent, vigorous and comprehensive campaign of education, during the past twenty years, the early stage of tuberculosis still eludes us. This is due to the indifference of patients in seeking advice in the early stage, the negligence of physicians, and the difficulty in reaching expertness in pulmonary examinations. The diagnosis of tuberculosis consists in a fine distinction between infection and disease. In considering the part that roentgenology plays in the diagnosis, we must not forget that the x-ray is only a part of the physical examination. There is nothing characteristic of tuberculosis about the physical signs in themselves, but the location of them is of considerable importance. One of the great advantages in the x-ray is the preservation of an accurate and permanent record of the lung density at the time of the exposure. The x-ray also reveals the pulmonary changes in greater detail. The x-ray may show surprising changes in a lung which revealed nothing abnormal to the physical examination. "If you discover slight abnormalities, the x-ray will show more extensive lessions." The great shortcoming of the physical examination is the difficulty of distinguishing between active and inactive lesions, and the same shortcoming adheres to the x-ray diagnosis. The detection of apical rales is the one feature in the physical examination where it has the advantage of the x-ray. The x-ray is indispensable to an accurate pulmonary diagnosis, but no physician should rely solely upon this for his diagnosis. The physician and roentgenologist should work in close co-operation.

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Information of interest to all readers, together with directory of officers of the constituent societies and the Board of Managers of this magazine, will be found following the Table of Contents on pages 1 and 2 of the Advertising Section.

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COUNTY MEDICAL SOCIETIES

The County Society is made or ruined by the Secretary. An efficient and active secretary can build up a lively and successful society, whether he deals with a half dozen doctors, or whether he works with one hundred. On the the other hand, an inactive lackadaisical secretary can take the spirit and enthusiasm out of the county society and leave it flat on its back from inanition. We have both kinds of secretaries in Arizona and New Mexico. El Paso County Society has a secretary of the right sort, and he makes it a practice to do two things, in addition to many others:

(1) He secures and sends in for publication papers read before his Society.

(2) He keeps the medical profession informed as to the activities of his Society, sending in interesting accounts of the meetings of his Society and personal items about the doctors of his community.

Not one single county secretary of Arizona or New Mexico sends in any news items or any accounts of county medical society activities. Four county societies in New Mexico laid down and died during the last two years, and others are in precarious shape. Two societies in Arizona had not returned reports at the time of the annual meeting and are entitled to an obituary notice.

It would tend to renewed activity and infuse new life into the societies if each one should place their secretary under bond and impose a fine of $25.00 upon him if he failed to send in to the official journal a full account of their regular meetings.

Connect up your society with the official journal and, through it, let your state and the southwest know that you are in existence. Remember Mark Twain and let us know whether the "reports of your death are exaggerated."

THE GILA COUNTY PLAN

The plan of the Gila County Medical Society is to have an invited guest to address the society at its meeting on the first Monday of each month. Usually the evening begins with a dinner, after which the guest of the evening reads his paper, followed by an informal smoker. The plan, so far, has been a splendid success and assures a full attendance. Hotel and dinner expenses are paid by prorated assessment, collections being made at the dinner hour by a "hard-boiled" secretary. The travelling expenses are the personal pleasure of the invited speaker. When weather and other conditions permit, the essayist is enter-

tained by some individual member of the society on a fishing trip at Roosevelt Lake. Among the men who have helped make the plan successful during the past year were Dr. Albert Soiland, of Los Angeles; Dr. Willard Smith, of Phoenix; Drs. Hugh Crouse, K. D. Lynch and Willis Waite, of El Paso.

The program for the fall and winter will include able speakers from various parts of Arizona and bordering states.

Recently an auxiliary was formed by the wives of the Gila County physicians. This organization plans to meet at the homes of the various members on the evenings of the scheduled medical meetings. The purpose of this auxiliary, though chiefly social in nature, is to further the common interests of the physicians and organized medicine. They will study and discuss questions of medico-social nature and familiarize themselves with legislation affecting the practice of medicine. It is hoped that similar organizations will come into existence whose members, in their individual affiliation with other women's organizations, will, in time, have a pronounced influence in moulding the ideas of American women with regard to political, medical and economic questions.—A. T. K.

ARIZONA INDUSTRIAL CONGRESS

One of the noteworthy steps in the industrial and professional development of Arizona was the formation of the Industrial Congress, the avowed purpose of which is the "fostering of a spirit of co-operation between commercial, financial, manufacturing, trade, mining, livestock, and agricultural interests, and civic and secular organizations of the state." The activity of the organization embraces six groups of industries — agriculture, business and financial, livestock, mining, professional, public utilities.

The Arizona State Medical Association, at its annual meeting, voted to affiliate with the Congress, thereby making each member of the Association a member, also, of the Congress. It is hoped that this affiliation will have a double effect; that it will cause the medical men of the state to interest themselves in the industrial and business problems of the commonwealth and lend their counsel and aid toward the proper solution of these problems; also, that the industrial and business world may be brought to a proper realization of the problems and ideals of the medical profession, and lend their influence and assistance to us. There is opportunity for much benefit to come from this association, but it will not come without some effort and study on the part of the medical men.

NEW YORK MEDICAL JOURNAL AND MEDICAL RECORD

One of the noteworthy changes in the field of medical publications is the combination of the Medical Record (Wood Co.), with the New York Medical Journal. This fusion of two of the prominent medical publications has resulted in an exceedingly active journal, which is published semi-monthly.

The material which has been appearing in this journal, in its new form, maintains the high standard which formerly governed the scientific material in the separate journals.

SELECTED ABSTRACTS ON RADIOTHERAPY

Radium Therapy in Certain Benign and Malignant Conditions. By Drs. Wm. D. James, Hamlet, N. C. Southern Medicine and Surgery, July, 1922.

In the treatment of malignant conditions in the several cavities of the body which communicate with the surface, radium is of much greater assistance to the surgeon than the x-ray. Also on the skin surface, radium is usually preferable.

Of benign conditions, fibroids and fibromyomas of the uterus afford the most pleasing results, except in very large tumors or pedunculated tumors, which conditions are more amenable to surgery for obvious reasons. Four hundred milligram-hours in the uterine cavity for from four to seven treatments usually suffice for fibroid tumors.

Lupus vulgaris responds more readily to radium treatment than to any other procedure. Full strength radium plaques screened with one or two mm. of aluminum and three mm. of rubber should be used; the same applies to pigmented nevi. Moles should not be treated with radium unless they are being irritated, in which case they should be treated as cancerous.

In inoperable carcinoma of the breast and in recurrent carcinoma after radical operation, radium therapy is the preferable treatment. Heroic teatment over a long peiod of time is required. Pre-operative raying is also advised.

In inoperable carcinoma of the uterus, twenty-four cases have been treated; twelve cases have been discharged from treatment, to be kept under observation; four others are ready to be discharged.

Radium treatment in operable carcinoma of the cervix is a worthy rival of total hysterectomy; two such cases have been treated with clinical cure.

The Use of Radium in Bleeding from the Nonmalignant Uterus. By Russell T. Wall, M. D., Scranton, Pa., Penna. Med. Jour., July, 1922.

There are two classes, one caused by fibroids, and the other hemorrhagic endometritis.

In fibroids, the indications for surgery in preference to radium are (1) large tumors; (2) young women where sterilizing is not desired; (3) complicating pregnancy; (4) complicating infection; (5) Toxic conditions indicating absorption of necrottic fibroids; (6) where diagnosis of fibroid is not certain; (7) associated surgical conditions.

The advantages of radium are, certainty of stopping bleeding at once, no fatalities and no irritating symptoms if precautions are observed, ease of application, no anesthesia, can be given at home if necessary.

In essential bleeding or hemorrhagic endometritis, the effect of radium is prompt and certain. A curettage for diagnosis is essential, as there is always a suspicion of malignancy. Sixteen case histories are given.

Thyroid Therapy. R. G. Allison, M. D., Minneapolis, Minn. Minnesota Medicone, July, 1922.

This paper reports results obtained on the material coming under the observation of the Medical Service of the University Hospital during a period of about 20 months. This consisted of 27 cases of Graves' disease who were not operated, but treated with x-ray. Of these, 24 are well from the clinical and laboratory standpoints, after eight months.

All cases were treated with a standard dosage at three-week intervals, consisting of 30 mam. through 4 m. m. of Al and one thickness of leather, at an average distance of 8 inches and a gap of 8 inches between blunt pionts; three portals of entry, one over each lobe and one over the thymus. If improvement was not marked after the fourth treatment, the time was increased to 34 mam.

The closest co-operation between the internist and the roentgenologist is insisted upon, so that the clinical observations and metabolic determinations are carefully watched.

Radium Therapy of Cancer of the Mouth and Throat. By C. Everett Field, New York City. New York State Journal of Medicine, March, 1922.

The author discusses the treatment of these very difficult cases, and insists that coagulation necrosis is frequently a necessary adjunct to radium in the mouth and throat. In carcinoma of the jaws, buccal cavity and larynx, radium has a limited advantage and permanent results are seldom secured.

For preoperative effect on neck glands to prevent metastases, about 3000 mgh. are required, filtered through 1.5 m. m. of brass at 2 c. m. distance.

In lip epithelioma, from 50 to 200 mgh. through ½ to 1 m. m. of metal and 2 to 4 m. m. of rubber; where nodular masses are present, needles of radium element, 30 mgh. per c. c. of tissue is effective. In tumors of epiglottis or larynx, 25 to 35 mgh. per c. c. of tissue by buried needles is advised, with cross fire of about 2000 mgh. from the outside.

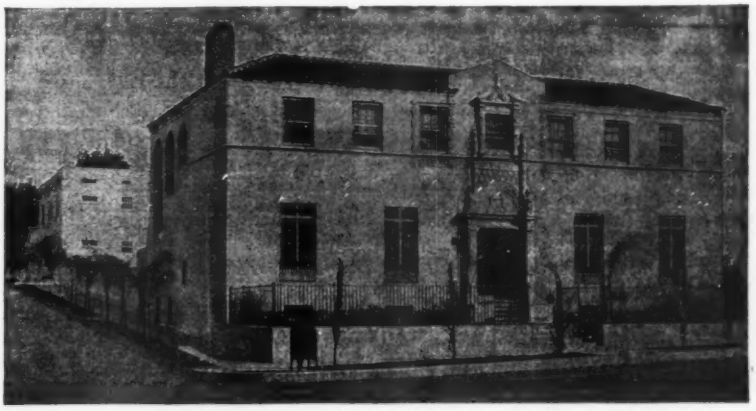
This author does not believe that buried emanation is superior to needles.

Etiology, Pathology, Prognosis and Treatment of Acne. By Chas. H. Ball, Tulsa, Okla. Jour. of the Okla. State Med. Assn. June, 1292.

After outlining the general and local treatment for acne, both of which are essential, the author dwells at some length on the x-ray treatment. The rationale of this therapy depends the activity of the sebaceous glands can be diminished and exfoliation produced, thus sterilizing the skin. The amount of the x-ray will depend on the type of acne, the successful treatment depending upon a flexible technic which will adapt the dosage to the needs of each case. Acne requires more experience and judgment to produce results than any skin disease treated by x-rays.

Observations on the Use of Copper Filter in the Roentgen Treatment of Deap-Seated Malignancies. By Drs. Groover, Christie and Merritt, Washington, D. C. Sou. Med. Jour., June, 1922.

A distinct advance in treating superficial malignancies was the substitution of the single massive dose for repeated fractional doses. For several years efforts have been directed toward securing a similar effect on deep-seated malignancies, by cross-firing, and increasing voltage and filters. The reports of work done abroad with higher voltages, increase in the skin-focus distance, substitution of heavier metals for the usual aluminum filter, reduction in the portals of entry and great increase in the time of exposure, have been very interesting. An attempt has been made to approximate that technic to the usual treatment machines in this country, using the following factors: Spark gap between blunt points, 8½ and 9½ inches; 5 milliamperes, .5 m. m. of copper and 1 m. m. of aluminum, skin-focus, 12 inches, time of exposure for each area, 3 hours.



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BOOK REVIEWS

LESSONS ON TUBERCULOSIS AND CONSUMPTION: By Charles E. Atkinson, M. D., recently Medical Director of the Seymour Sanatorium for Diseases of the Throat and Lungs, Banning, California. Formerly member of the Resident Staff at the Pottenger Sanatorium for Diseases of the Throat and Lungs, Monrovia, California. Previously Attending Physician and Instructor in the Medical Clinic of the Graves Memorial Dispensary, Los Angeles Medical Department of the University of California; member of the National Tuberculosis Association; Fellow of the American Medical Association, etc. 470 pages.

Written for lay readers, this work is by far the most comprehensive and detailed in its subject matter of the several books of like character available. It would appear to answer almost every conceivavble question in the mind of the tuberculosis patient. The style is clear, the statements conservative and not dogmatic. The book is unqualifiedly an excellent one and no consumptive will fail to profit by its careful and thorough study.—E. A. D.

PRACTICAL INFANT FEEDING: By Lewis Webb Hill, Junior Assistant Physician to the Childrens Hospital, Boston; Assistant in Pediatrics, Harvard Medical School. Octavo of 483 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, $5.00 net.

One of the most important subjects in the realm of medicine today is that of infant feeding. It has only been in the last few years that the subject has been put upon a practical scientific basis. The average general practitioner of today realizes the importance of the subject and is anxious for such literature as will aid him in protecting the future generation. Dr. Hill, through this volume on infant feeding has placed on the market a work that will be of great help to the general practitioner and a good reference book for the pediatrist. He discusses the subject of infant feeding in all of its various angles from a sound, practical and scientific viewpoint. In the later chapters of the text the author has discussed very appropriately, the relationship of infant feeding to such subjects as rickets, scurvy, eczema, and others.

The subject matter of this text is presented in a simple and easily understandable manner and should aid the general practitioner greatly in those cases which are so discouraging and worrysome in his every-day practice.—V. S. R.

THE MANAGEMENT OF THE SICK INFANT: By Langley Porter, B. S., M. D., M. R. S. C., (Eng.) L. R. C. P. (Lond.), Professor of Clinical Pediatrics at the University of California Medical School; San Francisco Children's Hospital; Consulting Pediatrician Mary's Help Hospital, San Francisco; and by William E. Carter, M. D., Assistant in Pediatrics and Chief of the Outpatient Department, University of California Medical School, Attending Physician, San Francisco Hospital. Octavo 654 pages, illustrated. First edition. C. V. Mosby Co., St. Louis, 1922. Cloth, $7.50 net.

The title of this work is very descriptive and it is written for the practicing physician. Someone called this the book of "hows" and it was nicely expressed. In a similar manner the writers have kept in mind the patient who is so frequently forgotten in many of the modern scientific works. While the book may be easily classed as a high class manual of Pediatrics, the authors have carefully gleaned the salient points found in the modern literature that have a bearing on etiology, symptoms, diagnosis and therapy. They have also enriched the work from their wealth of clinical experience as applied especially to the management of the sick infant. It is a very gratifying experience to find a book which is thoroughly scientific and yet which does not forget the art of the practice of medicine. The suggestions for the care of the sick infant are pregnant with good sound advice and reflects the mature experience of careful clinical observers.

The book is divided into three main parts. the first dealing with symptoms in a condensed and thorough discussion; the second part deals with all the diseases of infancy, including the infections and the endocrine disorders; and the last part is devoted entirely to methods. Elaborate illustrations show the proper technic for the handling of babies where there are special problems of nursing, diagnosis or therapeutics. Detailed descriptions of the special procedures accompany the illustrations. Directions for the preparation of a great many formulae in feeding cases are well presented. Special suggestions for drugs and their administration occupy the last chapters. The book as a whole commends itself to those interested in the subject of pediatrics.—H. L.

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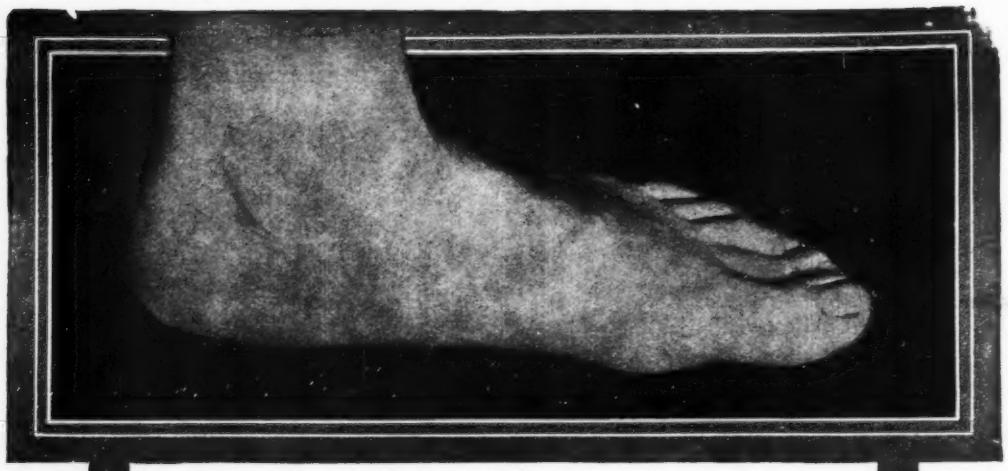

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